

Exhibit 2

with the disease.

Claim 1, SEQ ID NO 1369; 180pp; English.

This invention relates to novel mitochondrial targets that can be used for therapeutic intervention in treating a disease associated with altered mitochondrial function. Specifically, it refers to a method for identifying proteins of the human heart mitochondrial proteome that are useful for drug screening assays, as well as therapeutic targets. The present invention describes a method for identifying such proteins that can be used in the treatment of various diseases associated with altered mitochondrial function including diabetes mellitus, Huntington's disease, osteoarthritis, Leber's hereditary optic neuropathy (LHON), mitochondrial encephalopathy lactic acidosis and stroke (MELAS), myoclonic epilepsy ragged red fibre syndrome (MERRF) or cancer. Accordingly, these compositions have neuroprotective, neurotropic, antidiabetic, anticonvulsant, antiarrhythmic, osteoprotic, ophthalmological and cytoskeletal activities. This polypeptide sequence is a human heart mitochondrial protein of the invention.

Sequence 401 AA;

Query Match 100.0%; Score 251; DB 7; Length 401;
Best Local Similarity 100.0%; Pred. No. 7, 9e-21;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 GVKEPQCKYKORLHVEQLTTEVEKIKTVESATEBEKLTPTLAKOLAAL 52
94 GVKEPQCKYKORLHVEQLTTEVEKIKTVESATEBEKLTPTLAKOLAAL 145

RESULT 4
ABP53018
ID ABP53018 standard; protein; 406 AA.

ABP53018;
05-NOV-2002 (first entry)

Human p50 amino acid sequence SEQ ID NO:53.

Cellular proliferation inhibition; cytoskeletal; antiinflammatory; cancer;
p50 inhibitor; dynamitin inhibitor; gene therapy; tumour; carcinoma;
sarcoma; glioblastoma; leukaemia; lymphoid malignancy; neuronal disorder;
glial disorder; astrocytal disorder; hypothalamic disorder; inflammatory;
glandular disorder; macropagal disorder; epithelial disorder;
stromal disorder; blastocoeleic disorder; angiogenic disorder;
immunologic disorder.

Homo sapiens.

WO200264779-A2.

22-AUG-2002.

21-JAN-2002; 2002WO-US001708.

14-FEB-2001; 2001US-00782816.

(REGC) UNITV CALIFORNIA.

Sharp DJ, Rogers GC, Scholey JM;

WPI; 2002-657599/70.

New peptide inhibitors of p50/dynamitin useful for treating cancer by
inhibiting cellular proliferation, e.g. benign or malignant tumors,
leukemia and lymphoid malignancies, or inflammatory, angiogenic and
immunologic disorders.

Discloure; Fig 1, 55pp; English.

The present invention describes an isolated peptide (1) comprising or

CC having at least 90% identity to (P1) or (P2). Where (P1) and (P2) are the
CC sequences given in ABP52966 and ABP52967 and can have C-terminal and N-
CC terminal extensions. (1) have cytoskeletal and antiinflammatory activities
CC and can be used as p50/dynamitin inhibitors and in gene therapy. The
CC peptides, nucleic acid molecules and methods from the present invention
CC are useful for treating cancer by inhibiting cellular proliferation, such
CC as benign or malignant tumours (renal, liver, kidney, bladder, breast,
CC gastric, ovarian, colorectal, prostate, pancreatic, lung, vulval,
CC thyroid, hepatic carcinomas, sarcomas, glioblastomas, and various head and
CC neck tumours); leukaemias and lymphoid malignancies, other disorders such
CC as neuronal, glial, astrocytal, hypothalamic and other glandular,
CC macropagal, epithelial, stromal and blastocoeleic disorders; and
CC inflammatory, angiogenic and immunologic disorders. The present sequence
CC represents human p50 which is given in the exemplification of the present
CC invention

Sequence 406 AA;

Query Match 100.0%; Score 251; DB 5; Length 406;
Best Local Similarity 100.0%; Pred. No. 8, 1e-21;
Matches 52; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 GVKEPQCKYKORLHVEQLTTEVEKIKTVESATEBEKLTPTLAKOLAAL 52
99 GVKEPQCKYKORLHVEQLTTEVEKIKTVESATEBEKLTPTLAKOLAAL 150

RESULT 5
AAB58968
ID AAB58968 standard; protein; 465 AA.

AAB58968;

27-MAR-2001 (first entry)

Breast and ovarian cancer associated antigen protein sequence SEQ ID 676.

Human; breast cancer; ovarian cancer; cytoskeletal; immunosuppressive;
neurotropic; neuroprotective; antiviral; antiallergic; hepatotropic;
antidiabetic; antiinflammatory; antitumor; vulnary; anticonvulsant;
antibacterial; antifungal; antiparasitic; cardiac; immune disorder;
Kw Addison's disease; allergy; autoimmune hemolytic anaemia;
Kw autoimmune thyroiditis; diabetes mellitus; Crohn's disease;
Kw multiple sclerosis; rheumatoid arthritis; ulcerative colitis;
Kw cardiovascular disorder; wound healing; neurological disease.

Homo sapiens.

WO200055173-A1.

21-SEP-2000.

08-MAR-2000; 2000WO-US005881.

12-MAR-1999; 99US-0124270P.

(HUMA-) HUMAN GENOME SCI INC.

Rosen CA, Ruben SM;

WPI; 2000-611515/58.

N-PSDB; AAF21871.

New human breast and ovarian cancer associated gene sequences and the
polypeptides encoded by these genes, useful in the prevention, treatment
and diagnosis of cancer, immune disorders, cardiovascular disorders and
neurological diseases.

Claim 11; Page 1126-1128; 1299pp; English.

Sequences AAF21614 - AAF22031 represent DNA sequences encoding human
proteins AAB58711 - AAB59128. The DNA and protein sequences are
associated with breast and ovarian cancer. Included in the invention are

